



SHIPBOARD OBSERVATIONS

UNITED STATES NAVY MANUAL FOR SHIP'S SURFACE WEATHER OBSERVATIONS (NMOCINST 3144.1D)

SHIP SYNOPTIC CODE (SECT 1)

- **BBXX (STANDARD ENTRY FOR ALL SHIPS)**
- **SHIP'S FOUR LETTER CALL SIGN OR IDENTIFIER**
- **EX: NJAM, NTIC, ETC.**



SHIP SYNOPTIC CODE (SECT 1 CONT)

- **YYGGIw** **99LaLaLa QcLoLoLo**

YY: DAY OF THE MONTH

ENTER 2 DIGITS **01** THROUGH **31**

GG: TIME OF SYNOPTIC

ENTER **00, 03, 06, 09, 12, 15, 18, 21,**

Iw: WIND SPEED INDICATOR

ENTER “**4**” IF MEASURED USING THE SHIPS ANEMOMETER ENTER “**3**” IF WINDS ARE ESTIMATED (*PMQ-3 READINGS ARE MEASURED*).

	SHIP FOUR LETTER CALL SIGN	DAY OF M	SECTION 0			POSITION N	LATITU	QUADRANT	LONGIT
			TIME OF	NEAREST	WIND IN DI				
BBXX	OOOO	Y Y G G Iw	01-31 UTC	00-23 UTC		99	La La La	Qc Lo Lo Lo	
BBXX	N J A M	0 3 0 0 4				99			
BBXX	N J A M	0 3 0 6 4				99			
BBXX	N J A M	0 3 1 2 4				99			

SHIP SYNOPTIC CODE (SECT 1 CONT)

- LATITUDE AND LONGITUDE DATA IS ENTERED EXACTLY THE SAME AS IN COLUMN A
(PART A ABOVE)**
- DIVIDE TENTHS DIGIT BY 6 AND DISREGARD THE REMAINDER.**

				SECTION 0		POSITION OF SHIP					
				DAY OF MONTH	TIME OF OBS.	NEAREST H	WIND INDICAT	POSITION IN	LATITUDE	QUADRANT 0	LONGITUD
SHIP FOUR LETTER CALL SIGN				01-31 UTC	00-23 UTC				DEGREES & TENTHS		DEGREES & TENTHS
BBXX	OOOO			Y Y G G Iw	99 La La La	Qc Lo Lo Lo Lo					
BBXX	N	J	A	M	0 3 0 0 4	99 3 2 7	7 1 2 5 6				
BBXX	N	J	A	M	0 3 0 6 4	99 3 2 7	7 1 2 5 6				
BBXX	N	J	A	M	0 3 1 2 4	99 3 2 7	7 1 2 5 6				

SHIP SYNOPTIC CODE (IrIxhVV)

Ir: PRECIPITATION DATA INDICATOR
ALWAYS ENTER 4 SHIPS DO NOT MEASURE PRECIPITATION.

Ix: PRESENT WEATHER DATA INDICATOR
ENTER 1 TO INCLUDE PRESENT/PAST WEATHER GROUP (7wwW1W2)
OR ENTER 3 TO OMIT (NONE OBSERVED)

h: HEIGHT OF THE BASE OF THE LOWEST CLOUD. ***(LOWEST LAYER IN COL 10)***

CODE FOR CLOUD HEIGHT, h	
CODE FIGS.	HEIGHT IN FEET
0	00 TO 99
1	100 TO 299
2	300 TO 699
3	700 TO 999
4	1000 TO 1999
5	2000 TO 3299
6	3300 TO 4899
7	4900 TO 6499
8	6500 TO 7999
9	8000 OR ABV OR NO CLOUDS
/	HEIGHT NOT KNOWN

SHIP SYNOPTIC CODE (IrIxhVV CONT)

- **"VV" - VISIBILITY:**
ENTER THE CODE FIGURE (SEE **TABLE**) THAT REPRESENTS THE LOWEST VISIBILITY VALUE OBSERVED (**LOWEST VALUE IN THE SECTORS**).
- THIS IS NOT NECESSARILY THE SAME AS THE VALUE ENTERED IN **COL 7 OF PART A**.
- **CODE VALUE "98" WILL BE THE HIGHEST VALUE.**

CODE				
			90-99	
Ir	Ix	h	V	V
4	1	3	9	6
4	3	7	9	6
4	3	9	9	7

TABLE

VISIBILITY	(VV)
VISIBILITY	CODE FIGS.
NM	
<1/16	90
1/16	91
1/8	92
1/4	93
1/2	94
1 OR 1/1/2	95
2, 2-1/2, OR 3	96
5, 6, 7, OR 8	97
9 OR 10	98
NOT REPORTED	99

SHIP SYNOPTIC CODE SHIPS COURSE, SPEED & APPARENT WIND DATA

**THIS INFORMATION IS ENTERED ON THE FORM
BUT NOT TRANSMITTED**

- COURSE AND SPEED DATA WILL BE THE SAME AS THAT ENTERED IN COLS B AND C.
- APPARENT WIND IS THE OBSERVED
RELATIVE WIND DIRECTION/SPEED.

PRECIPITATION DATA INDICATOR		WEATHER CODE INDICATOR (1 C)		HEIGHT OF LOWEST CLOUD		VISIBILITY		SHIP'S COURSE AT TIME OF OB		APPARENT DIRECTION RELATIVE TO SHIP FROM 0-360		SHIP'S SPEED AT TIME OF OB		SPEED	
Ir	bk	h	v	v		90-99	TRUE	KNOTS	KNOTS	ESTIMATED ANEMOMETER	()	AN HGT.	33m	(X)	
4	1	3	9	6			076	08	350	04					
4	3	7	9	6			090	15	380	12					
4	3	9	9	7					080	08					

SHIP SYNOPTIC CODE (Nddff)

“N” - TOTAL AMOUNT OF SKY COVER IN EIGHTHS

“dd” - TRUE WIND DIRECTION IN TENS OF DEGREES FROM THE DIRECTION THE WIND IS BLOWING.

- ENTRY WILL BE THE *SAME AS COL 3 OF PART A*

"ff" - TRUE WIND SPEED IN KNOTS (07, 32).

SECTION 1									
TRUE WIND			HIGH SPEED WIND			TEMPERATURES			
TOTAL CLOUD AM.	DIRECTION FROM	SPEED	GROUP INDICAT	SPEED	GROUP INDICAT	SIGN OF TEMP (-)		DRY BULB	(Degrees & Ten
KNOTS		KNOTS		KNOTS				°C	
Z	d	d	f	f	00	f	f	f	1
5	3	3	1	2					
7	3	1	0	6					
8	0	0	0	0					

SHIP SYNOPTIC CODE HIGH SPEED WIND & TEMPERATURE

- **HIGH SPEED WIND:** OMIT IF WINDS ARE <100 KNOTS **TEMPERATURE & DEWPOINT:**

- **(1snTTT 2snTdTdTd)**
- “**sn**” SIGN OF TEMPERATURE (POSITIVE OR NEGATIVE)
 - 0** = POSITIVE OR ZERO
 - 1** = NEGATIVE
- **TTT** AIR TEMP IN TENTHS OF DEGREE CELSIUS
- **TdTdTd** DEWPOINT TEMP IN TENTHS OF DEGREES CELSIUS

EXAMPLES: TEMP: 10.3 C DEWPOINT: 8.0 C

TEMP: 00.5 C DEWPOINT: -2.0 C

TEMP: -05.0 C DEWPOINT: -10.0 C

GROUP INDICATOR	WIND				GROUP INDICATOR	SIGN OF TEMP (+ =	Dry Bulb	DRY BULB	(Degrees & Tenths)	GROUP INDICATOR	SIGN OF DP (+ = 0	DEW POINT	DEW POINT	Dewpoint (Whole)	
	KNOTS	SPEED													
00	f	f	f	f	1	S _n	T	T	T	2	S _n	T _d	T _d	T _d	
					1	0	1	0	3	2	0	0	8		
					1	0	0	0	5	2	1	0	2	0	/
					1	1	0	5	0	2	1	1	0		/

SHIP SYNOPTIC CODE SEA LEVEL PRESSURE (4PPPP)

- ENTERED IN TENS, UNITS, AND TENTHS OF A MILLIBAR
- WHEN SEA LEVEL PRESSURE IS 1000 MB OR GREATER, THE LEADING 1 IS OMITTED.

EXAMPLES: **992.4 MB**

1000.0 MB

1032.1 MB

PRESSURE					WEATHER					CLOUDS					ACTUAL TIME OF OBSERVATION				
					3-HOUR PRESSURE CHANGE					PAST									
4	P	P	P	P	5	a	p	p	p	7	W	W	W ₁	W ₂	8	N _h	C _L	C _M	C _H
4	9	9	2	4	5					7					8				9
4	0	0	0	0	5					7					8				9
4	0	3	2	1	5					7					8				9

SHIP SYNOPTIC CODE PRESSURE TENDENCY (5appn)

- **NOT ENTERED WHEN THE SHIP IS UNDERWAY.**
- **ENTERED WHEN THE SHIP IS ANCHORED.**
- TENDENCIES ARE CALCULATED USING THE CHANGE AND CHARACTERISTIC RECORDED ON THE FORM DURING THE PAST 3 HOURS. (NOT INCLUDING THIS SYNOPTIC TIME).
- **USING THE TENDENCY CHART PROVIDED, OBSERVE THE 3 HOUR TENDENCY IN PART 1 OF THE OBSERVATION FORM.**

EXAMPLE : (USE SEA LEVEL PRESSURE COL 22a)

1159Z PRESSURE: 1025.5

1256Z PRESSURE: 1015.5 DOWN

1358Z PRESSURE: 1005.0 DOWN

NET CHANGE: 20.5

PRESSURE										SECTION 1						WEATHER						CLOUDS						ACTUAL TIME OF OBSERVATION											
										3-HOUR PRESSURE CHANGE												PAST																	
4	P	P	P	P	P	5	a	P	P	P	7	W	W	W ₁	W ₂	8	N _b	C _L	C _M	C _H	9	G	G	9	9	9													
4	9	9	2	4	5	7	1	7	5	7						8					9																		
4	0	0	0	0	5					7						8					9																		
4	0	3	2	1	5					7						8					9																		



SHIP SYNOPTIC CODE PRESENT WEATHER (7wwW1W2)

THE 99 TYPES OF PRESENT WEATHER

REFER TO THE PRESENT WEATHER TABLE

"WW" - PRESENT WEATHER AT OBSERVATION TIME

INDICATED IN COL 9 OF PART 1: (USE THE FIRST VALUE)

EXAMPLE: SHRA FG TABLE **CODE:** 81

"W1W2" - PAST WEATHER

EVEN SYNOPTIC - PAST 6 HOURS, ODD - PAST 3 HOURS.

W1: HIGHEST PRIORITY (USE TABLE BELOW RIGHT)

W2: SECOND HIGHEST PRIORITY (USE SAME TABLE)

- ENTER **70000** FOR NO SIGNIFICANT PRESENT/PAST WEATHER

WEATHER			CLOUDS					
		PAST						
O-99								
7	W	W	W ₁	W ₂	8	N _h	C _L	C _M
7	8	1	1	0	8			
7	/	/	/	/	8			
7	8	1	1	0	8			

Codes for Past Weather, W ₁ W ₂	
Code	
9	Thunderstorm(s) with or without precipitation
8	Shower(s)
7	Snow, or rain and snow mixed
6	Rain
5	Drizzle
4	Fog, ice fog, or thick haze (visibility was less than 1/2 nautical mile)
3	Sandstorm, dust storm, or blowing snow
2	Cloud cover more than 1/2 throughout period
1	Cloud cover more than 1/2 for part of period, and 1/2 or less for another part period
0	Cloud cover 1/2 or less throughout period

SHIP SYNOPTIC CODE

THE CLOUD GROUP (8NhClCmCh)

- “Nh”: AMOUNT OF LOW OR MID CLOUD PRESENT
ENCODE 9 WHEN SKY IS OBSCURED (EX: FOG)
- “Cl”: LOW CLOUD PRESENT
- “Cm”: MID CLOUD PRESENT
- “Ch”: HIGH CLOUD PRESENT

EXAMPLES FROM COL 10:

FEW10 SCT43 BKN180 CODED: 84803

BKN8 OVC25: CODED 888//

CLEAR SKIES ENTER 80000

WEATHER					CLOUDS					ACTUAL TIME OF OBSERVATION				
PAST														
0-99														
7	W	W	W ₁	W ₂	8	N _h	C _L	C _M	C _H	9	G	G	9	9
7					8	8	4	0	3	9				
7					8	8	8	6	10	9				
7					8	0	0	6	10	9				



SHIP SYNOPTIC CODE (9GGgg)

- IDENTIFIES THAT THE ACTUAL TIME OF OBSERVATION WAS NOT WITHIN THE DESIGNATED 10 MINUTE (45 - 55 MINUTES PAST THE HOUR) TIME FRAME.
- DUE TO SHIPBOARD OPERATIONS/EXERCISES.
- NOT USUALLY INCLUDED
- “GG”: HOUR IN UTC (TENS AND UNIT).
- “gg”: MINUTES (TENS AND UNITS).

WEATHER					CLOUDS					ACTUAL TIME OF OBSERVATION				
		PAST												
0-99					8	N _b	C _L	C _M	C _H	9	G	G	9	9
7	W	W	W ₁	W ₂	8					9	1	6	0	5
7					8					9	1	6	4	0
7					8					9	1	7	3	0

SHIP SYNOPTIC CODE (SECT 2) SHIPS COURSE & SPEED (222DsVs)

- “Ds”: COURSE MADE GOOD DURING THE 3 HOURS PRECEDING THE OBSERVATION
 - USE 8 POINTS OF THE COMPASS (EX: 1=NE, 4=S, 8=N)
 - ENTER “9” IF DIRECTION UNKNOWN
 - ENTER “/” IF ANCHORED
- “Vs”: SHIPS AVERAGE SPEED MADE GOOD DURING THE 3 HOURS PROCEEDING THE TIME OF OBSERVATION (USE TABLE BELOW RIGHT).

SECTION 2										
SHIP'S COURSE AND SPEED					SEA SURFACE TEMPERATURE					
G R O U P A I N D I C A T		C O U R S E M A V G S P D M			G R O U P I		S I G N T Y P		D E G R E E S	
G	R	O	U	P	A	I	S	T	E	
222	D _s	V _s	0	S _s	T _w	T _w	T _w			
222	8	2	0							
222	3	3	0							
222	5	4	0							

Code for Ship's Average Speed, V _s	
Code Figures	True Speed
0	0 knot
1	1 to 5 knots
2	6 to 10 knots
3	11 to 15 knots
4	16 to 20 knots
5	21 to 25 knots
6	26 to 30 knots
7	31 to 35 knots
8	36 to 40 knots
9	Over 40 knots
/	Not reported

SHIP SYNOPTIC CODE

SEA SURFACE TEMPERATURE (0SsTwTwTw)

- **"Ss": SIGN OF THE SEA TEMP**
 - ENTER "0" FOR POSITIVE
 - ENTER "1" FOR NEGATIVE
- **"TwTwTw": SEA SURFACE TEMPERATURE IN CELSIUS. (NEAREST 1/10)**
 - **OMIT** GROUP IF SEA TEMP CANNOT BE OBSERVED.

SEA TEMP: 12.4 C

1.1 C

15.0 C

SHIP'S COURSE AND SPEED		SEA SURFACE TEMPERATURE				
GROUP AND SECTION INDICATOR	COURSE MADE GOOD - 3 HOURS	Avg SPEED MADE GOOD - 3 HOUR	GROUP INDICATOR	SIGN TYPE OF TEMP (0.1)	DEGREES AND TENTHS	°C
222	D _s	V _s	0	S _s	T _w	T _w
222	8	2	0	0	1	2
222	3	3	0	1	0	1
222	5	4	0	0	1	5

SHIP SYNOPTIC CODE

SEA WAVES

(2PwPwHwHw)

- **PwPw**: PERIOD OF SEA WAVES
ENTER THE SAME AS IN COL E ABOVE
- **HwHw**: HEIGHT OF SEA WAVES (IN 1/2 METERS)
MATCH THE HEIGHT ENTERED IN COL F TO THE TABLE AND ENTER VALUE FROM TABLE.
- **COL E ENTRY:** (0304)
- **HwHw** ENTRY: (20302)

SEA WAVES			SECTION 2 WAVES																
GROUP IN E	PERIOD (:	HEIGHT (Ha	DIRECTION FROM			SWELLS			SECONDARY SWELL										
			INDICATO	PREDOMI	SECOND	INDICATO	PREDI (:	HEIGHT	INDICATO	PERIOD (:									
				SWELL	SWELL			(Half Met		Half Met									
				01-36	01-36														
2	P _w	P _w	H _w	H _w	3	d _{w1}	d _{w1}	d _{w2}	d _{w2}	4	P _{w1}	P _{w1}	H _{w1}	H _{w1}	5	P _{w2}	P _{w2}	H _{w2}	H _{w2}
2	0	3	0	2	3					4					5				
2					3					4					5				
2					3					4					5				



SHIP SYNOPTIC CODE

DIRECTION OF SWELLS

(3Dw1Dw1Dw2Dw2)

DIRECTION OF PRIMARY & SECONDARY SWELL WAVES

- **"Dw1Dw1": DIRECTION OF PRIMARY SWELL WAVES.**
 - ENTER IN HUNDREDS AND TENS THE DIRECTION FROM WHICH THE SWELLS ARE COMING.
 - WHEN NONE ARE VISIBLE ENTER "://"
 - IF NO SWELL IS OBSERVED ENTER: 30000.

- **"Dw2Dw2": DIRECTION OF SECONDARY SWELL WAVES.**
 - ENTER THE SAME AS PRIMARY SWELL.

EXAMPLE: PRIMARY SWELL FROM 330 DEGREES

SECONDARY SWELL FROM 090 DEGREES

ENTER: 33309

SEA WAVES			SECTION 2 WAVES				SWELLS			SECONDARY SWELL		
GROUP	PERIOD	HEIGTH	DIRECTION FROM			PREDOMINANT SWELL			SECONDARY SWELL			
			INDICA	PREDOM I NT 01-36	SEC ON D 01-36	INDICA	PREDOM	HEIGH (H a f M)	INDICA	PREDOM	HEIGH (H a f M)	
2	P _w	P _w	H _w	H _w	3 d _{w1} d _{w1} d _{w2} d _{w2}	4 P _{w1} P _{w1} H _{w1} H _{w1}	5 P _{w2} P _{w2} H _{w2} H _{w2}					
2					3 3 3 0 9	4						
2					3 2 7 0 0	4						
2					3 0 0 0 0	4						

SHIP SYNOPTIC CODE

PERIOD/HEIGHT OF PRIMARY SWELL

(4Pw1Pw1Hw1Hw1)

- **Pw1Pw1**: PERIOD OF PRIMARY SWELL
 - ENTER PERIOD AS ENTERED IN COL F OF PART A
- **Hw1Hw1**: HEIGHT OF PRIMARY SWELL IN 1/2 METERS.
 - HEIGHT OF SWELL ENTERED IN COL F OF PART A
 - CONVERTED TO HALF METERS USING CODE TABLE III-4-4

CODE TABLES

TABLE III-4-4

Wave Height in Half-Meters

Code figure	Height in feet	Code figure	Height in feet
00	calm	16	25 or 26
01	1 or 2	17	27 or 28
02	3 or 4	18	29
03	5	19	30 or 31
04	6 or 7	20	32
05	8	21	33 or 34
06	9 or 10	22	35 or 36
07	11 or 12	23	37
08	13	24	38 or 39
09	14 or 15	25	40
10	16	26	41 or 42
11	17 or 18	27	43 or 44
12	19 or 20	28	45
13	21	29	46 or 47
14	22 or 23	30	48
15	24	31	49 or 50

SHIP SYNOPTIC CODE PERIOD/HEIGHT OF PRIMARY SWELL (4Pw1Pw1Hw1Hw1)

- **EXAMPLE:** (COL F OF PART A)
SWELL FROM 360 DEG, PERIOD 6 SECS, HEIGHT OF 6 FT
CODED ENTRY: **33600 40604**
NOTE: 1. "00" IN 3 GROUP INDICATES NO SECONDARY SWELL.
2. 6 FT WAVES CONVERTS TO CODE FIGURE 4.
- **ENTER: 40000 50000 IF NO SWELLS ARE PRESENT**

SECTION 2																			
SEA WAVES						SWELLS													
GROUP I	PERIOD		HEIGHT (ft)		DIRECTION FROM		PREDOMINANT SWELL		PREDOMINANT SWELL		SECONDARY SWELL								
	INDICAT	PREDOM	INDICAT	PREDOM	DIR	DIR	DIR	DIR	INDICAT	PERIOD	HEIGH								
2	P _w	P _w	H _w	H _w	3	d _{w1}	d _{w1}	d _{w2}	d _{w2}	4	P _{w1}	P _{w1}	H _{w1}	H _{w1}	5	P _{w2}	P _{w2}	H _{w2}	H _{w2}
2	0	3	0	2	3	3	6	0	0	4	0	6	0	4	5	0	0	0	0
2					3	3	3	0	6	4	0	3	0	2	5	0	5	0	3
2	0	0	0	0	3	0	0	0	0	4	0	0	0	0	5	0	0	0	0

SHIP SYNOPTIC CODE

PERIOD/HEIGHT OF SECONDARY SWELL

(5Pw2Pw2Hw2Hw2)

- ENTER SECONDARY SWELL PERIOD AND HEIGHT **IDENTICAL** TO PRIMARY PERIOD AND HEIGHT (4Pw1Pw1Hw1Hw1).
- ENTER **0000** IF NO SECONDARY SWELL IS OBSERVED.

SECTION 2																			
WAVES																			
SEA WAVES			SWELLS																
GROUP INDIC	PERIOD (SE)		HEIGHT (Half I)		INDICATOR	DIRECTION FROM		PREDOMINANT SWELL			SECONDARY SWELL			PERIOD (SE)		HEIGHT (Half Meter)			
	P _w	P _w	H _w	H _w		PREDOMINANT SWELL	DIRECTION FROM	INDICATOR	PERIOD (SE)	HEIGHT (Half Meter)	SECONDARY SWELL	INDICATOR	PERIOD (SE)	HEIGHT (Half Meter)	SECONDARY SWELL	INDICATOR			
2	P _w	P _w	H _w	H _w	3	d _{w1}	d _{w1}	d _{w2}	d _{w2}	4	P _{w1}	P _{w1}	H _{w1}	H _{w1}	5	P _{w2}	P _{w2}	H _{w2}	H _{w2}
2	0	3	0	2	3	3	6	0	0	4	0	6	0	4	5	0	0	0	0
2	0	0	0	0	3	3	3	0	6	4	0	3	0	2	5	0	5	0	3
2	0	1	0	1	3	0	0	0	0	4	0	0	0	0	5	0	0	0	0

SHIP SYNOPTIC CODE
WET BULB
(8SwTbTbTb)

- **ICE ACCRETION BLOCKS HAVE BEEN OMITTED FROM THIS COURSE. REFER TO 3144.1D SHOULD ICING CONDITIONS DEVELOP.**
- **OMIT THE ENTIRE GROUP FROM REPORT IF ICE IS NOT OBSERVED**
- **WET BULB TEMPERATURE:**
- **“Sw”: ENTER “0” FOR ZERO OR POSITIVE READING.**
- **“TbTbTb”: ENTER THE WET BULB TEMPERATURE IN TENS, UNITS AND TENTHS OF A DEGREE CELSIUS.**

TAKING/TRANSMITTING WEATHER OBSERVATIONS

- **WHEN UNDERWAY AT SEA:**

1. UNLESS A MET GUARD SHIP IS DESIGNATED THAT IS WITHIN 50NM (**SPECIFIED IN OPTASK METOC**)

- **WHEN INPORT (NOT HOMEPORt):**

1. UNLESS A MET GUARD SHIP DESIGNATED
2. VICINITY U.S MANNED WEATHER UNIT/SHIP.

- **DURING MINIMIZE CONDITIONS:**

- WIND SPEEDS IN EXCESS OF 35 KNOTS
- SEAS 12 FT OR GREATER
- MODERATE OR HEAVY PRECIPITATION
- PRESSURE CHANGE 3MB OR GREATER DURING PAST 3 HOURS
- VISIBILITY <1NM.
- AS DICTATED BY OPERATIONS.

- **REPORTING 3 HOURLY SYNOPTIC OBS:**

TRANSMIT **IMMEDIATE** PRECEDENCE

- WINDS 34 KTS OR GREATER.
- SEAS 12 FT OR GREATER.
- WITHIN 300 NM OF TCFA (TROPICAL CYCLONE FORMATION ALERT).
- WHEN WITHIN 500 NM OF TROPICAL DEPRESSION, TROPICAL STORM, OR HURRICANE.



METOC PUBLICATIONS

- OPNAV 3140.24E (Warning's & Conditions of Readiness Re. Hazardous & Destructive Weather Phenomena)
- USCINCPACINST 3140.4 (METOC Support Manual)
- CINCPACFLT OPORD 201 ANNEX H
- C3F / C7F OPORD 201 BOOK II ANNEX H
- CNSP 3140.3B CNAP 3140.1B (METOC Support Doctrine)
- CNSP / CNSL 3140.2 (Tropical Cyclone Evasion)
- CNSP / CNSL 3840.1B (Joint Surf Manual)
- NAVMETOCCOMINST 3140.1K (METOC Support Manual)
- NAVMETOCCOMINST 3144.1D (Manual for Ship's Surface Weather Observations)
- C3F 262244Z Aug 93 (Hazardous Weather Avoidance & Reporting)

Any questions?

